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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Peter R. Wurman, et al.

Group Art Unit: 3624

Examiner: Jagdish Patel

Serial No.: 09/550,964

Filed: April 17, 2000

For: METHOD AND COMPUTER SYSTEM FOR CONDUCTING A PROGRESSIVE, PRICE-DRIVEN COMBINATORIAL AUCTION

Attorney Docket No.: UOM 0182 PUS

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an appeal brief from the final rejection of claims 1-20 of the Office Action dated February 10, 2004. This application was filed on April 17, 2000.

I. REAL PARTY IN INTEREST

The real party in interest is The Regents of the University of Michigan, a non-profit organization, organized and existing under the laws of the state of Michigan, and having a place of business at 3003 S. State Street, Ann Arbor, Michigan 48109, as set forth in the

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

I hereby certify that this paper, including all enclosures referred to herein, is being deposited with the United States Postal Service as first-class mail, postage pre-paid, in an envelope addressed to: Mail Stop Appeal Brief - Patents, Commissioner for Patents, U.S. Patent & Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 on

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II. RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences known to Appellants, the Appellants' legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-20 are pending in this application. Claims 1-20 have been rejected and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

An amendment to originally filed claims 1, 2, 10 and 11 in response to a first Office Action was entered. An amendment to amended claims 1 and 10 in response to a second Office Action was entered. No other amendments were filed.

V. SUMMARY OF THE INVENTION

As noted at numerous locations throughout the pending application, such as the title, the technical field, and the objects of the invention, the present invention is â method and computer system for conducting a progressive, price-driven combinatorial auction. Both the method and the computer system require calculation of an interim winning price for each bundle of items in an interim allocation of bundles based on a k-bundle price algorithm which ensures that bidders can determine whether they are winning the auction from interim winning prices.

Prior to the present invention, it was oftentimes difficult for bidders to determine whether they were winning such an auction (Specification, page 6, lines 11-14).

Figure 1 is a schematic environmental view illustrating a computer site of the present invention (Specification, page 9, lines 19-20). The computer site is illustrated in Figure 1 as an "auction computer (engine)." The auction engine within the auction computer receives bids from bidders, performs calculations based on the k-bundle price algorithm, and transmits allocations and prices to the bidders over a communications network. Clearly, the auction computer is a device or machine having communications capability in order to communicate with the communications network.

The communications network is not a claim limitation *per se*, but rather is a statement describing the claimed invention's intended field of use. The communications network may be any communications network, such as a computer network like the Internet (Specification, page 11, lines 18-19). The overall procedure implemented by the auction engine is illustrated in block diagram flow chart form in Figure 2 (Specification, page 11, lines 21-22). In one embodiment of the invention, the overall procedure implemented by the auction engine as programmed on the auction computer (*i.e.*, the computer site) is described on page 13, lines 6-14 as follows:

"A. Initialize all bundle prices to zero.

B. Repeat until termination criterion is satisfied.

B1. Receive bids. Admit bids (or incremental offers) meeting constraints specified in bidding rules (discussed below).

B2. Perform price calculation operation based on current set of bids. Notify bidders of revised allocation (step 1), revised winning prices (step 2), and (optionally, or on demand), the revised prices on other bundles.

C. Report/implement final allocation and prices as auction result."

In the prosecution history, and, in particular, in response to the second Office Action, an Amendment was filed to each of independent claims 1 and 10 to make it clear that the present invention was directed toward a method and computer system for conducting a progressive, price-driven combinatorial auction of items over a communications network. However, no part or portion of the network or its function is claimed. In other words, the inventors did not invent a communications network or any part or function of a communications network. Claims 1 and 10 merely indicate that the claimed method and computer system for conducting such an auction is intended to be performed over a communications network.

VI. ISSUES

1. Whether claims 1-20, which are rejected under 35 U.S.C. § 112, ¶ 2, are indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention.

2. Whether the method of claims 1-9 for conducting a progressive, price-driven combinatorial auction of items over a communications network is directed to statutory matter under 35 U.S.C. § 101. The Examiner alleges that it is not, while the Appellants believe that claims 1-9 are statutory and clearly patentable.

A. Rejections

1. Claims 1-20 stand rejected under 35 U.S.C. § 112, ¶ 2, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention.

2. Claims 1-9 stand rejected under 35 U.S.C. § 101 as being drawn to non-statutory subject matter (*i.e.*, not within the technological arts).

VII. GROUPING OF CLAIMS

Method claims 1-5 and 7-9 will stand or fall together. Method claims 6, 19 and 20 stand on their own. Method claims 6, 19 and 20 will stand or fall together.

System claims 10-18 will stand or fall together.

VIII. ARGUMENT

Initially, the Examiner has rejected claims 1-20 under 35 U.S.C. § 112, ¶ 2, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. The Examiner bases this rejection on the fact that because the preamble of each of the independent claims includes the phrase "over a communications network" then the body of each of the claims must include or recite limitations carried out over the communications network. This is clearly contrary to the law and the Examiner has cited no support for his position.

As previously noted, the "over a communications network" language in each of independent claims 1 and 10 is not a positive limitation to the claimed invention, but is merely a statement describing a purpose or intended use for the claimed invention, which is clearly permissible. A communications network or any part thereof is clearly not what the inventors invented, and is not intended to be encompassed by the claims.

The language "over a communications network" was added to each of the independent claims after a second Office Action which rejected claims 1-9 under 35 U.S.C. § 101. (It is worth noting that the Examiner's rejection under 35 U.S.C. § 101 was not contained in the first Office Action, but rather was only set forth in the second Office Action after the Examiner's prior rejection under 35 U.S.C. § 103 was overcome in the Amendment to the first Office Action.)

With respect to the rejection under 35 U.S.C. § 101, the proper legal analysis for determining statutory subject matter initially includes a determination of what the applicants have invented and is seeking to patent. As part of this analysis, one needs to identify and understand any practical application asserted for the invention. That is, whether the invention has real-world value within the technological arts. Another way of expressing this is to ask the question whether the invention enhances or improves a human condition, or at least improves human efficiency in some respect.

Independent claim 1 calls for a method for conducting a progressive, price-driven combinatorial auction of items over a communications network. Also, as previously mentioned, the title, the technical field and the objects of the present invention all call for such a method.

The Examiner has stated that the invention is not within the "technological arts." However, as noted in the case *In re Toma*, a technological or useful arts inquiry must focus on whether the claimed subject matter is statutory. Clearly, the claimed subject matter of claim 1 is statutory in that it calls for a method for conducting a progressive, price-driven combinatorial auction of items over a communications network. Furthermore, each of the receiving steps of claim 1 are performed at a computer site which, as previously noted with respect to Figure 1, is not a location as asserted by the Examiner, but rather is a programmed auction computer. In furtherance of Appellants' argument that the computer site is not a location, dependent claim 6 states that the computer site of claim 1 may be a Web site. Clearly, a Web site cannot be and is not a location.

Attached hereto is a copy of pages 876-877 of NEWTON'S TELECON DICTIONARY, which defines a "Web site" as a machine in the first sentence of the definition of a "Web site." The second sentence of the definition refers to individual sets of Web pages that can be visited with Web browsers.

The case *Ex parte Bowman* cited by the Examiner dealt with the situation where the invention as disclosed and claimed was rejected under 35 U.S.C. § 101 because no form of technology was disclosed or claimed. This is totally opposite to the situation here wherein technology and "useful arts" are clearly disclosed (see Figure 1 and supporting description found on pages 10, 11 and 13). Furthermore, as previously noted, claim 1 claims a "computer site" in both receiving steps. Also as previously noted, such computer site is schematically illustrated in Figure 1 as an auction computer programmed with an auction engine (see description of Figure 1 under the heading "Brief Description of Drawings"). Technology in the form of a computer site or an auction computer programmed with an auction engine and having the capability to communicate with a communication network is clearly within the useful arts, and consequently, claim 1 falls within the technological arts. In like fashion, claim 6, which states that the computer site is a Web site also falls within the technological arts.

Furthermore, the Examiner has failed to apply the Examiner's Guidelines for Computer-Related Inventions as noted in § 2106 of the MPEP. In particular, the Examiner has failed to follow the examination guidelines for a utility requirement as set forth in § 2107 of the MPEP. In particular, claims 1-9 define a computer-related process which is clearly statutory subject matter.

Furthermore, the Examiner has failed to argue or even suggest that claims 1-9 fail to produce a useful, concrete or tangible result which is part of the test for statutory subject matter under 35 U.S.C. § 101. Claim 1 and the claims dependent therefrom clearly have such a result in the form of the last revised, interim allocation and winning prices found in the declaring step of claim 1.

IX. SUMMARY

Claims 1-20 are not indefinite under 35 U.S.C. § 112, second paragraph, since Appellants do not regard a communications network, or any part of a communications

network, the subject matter which Appellants regard as their invention. Rather, Appellants have invented a method and computer system for conducting a progressive, price-driven combinatorial auction, as clearly stated at numerous locations throughout the application. The Examiner's position is clearly contrary to established law.

Appellants' claims 1-9 clearly recite patentable subject matter under 35 U.S.C. § 101. It is readily apparent that the invention of claim 1 has a well established utility, since a person of ordinary skill in the art would immediately appreciate why the invention is useful based on the characteristics of the method for conducting a progressive, price-driven combinatorial auction. The utility of claims 1-9 is specific, substantial and credible.

In summary, the Examiner's rejections under 35 U.S.C. § 101 and 112 are clearly contrary to law.

Consequently, for the reasons discussed above, it is respectfully submitted that the rejection of claim 1-20 should be reversed.

The fee of $165.00 as applicable under the provisions of 37 C.F.R. § 1.17(c) is enclosed. Please charge any additional fee or credit any overpayment in connection with this filing to our Deposit Account No. 02-3978. A duplicate of this notice is enclosed for this purpose.

Respectfully submitted,

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Enclosures: NEWTON'S TELECON DICTIONARY (pp. 876-877);
Appendix - Claims on Appeal

X. APPENDIX - CLAIMS ON APPEAL

1. A method for conducting a progressive, price-driven, combinatorial auction of items over a communications network, the method comprising:

(a) receiving at a computer site bids for the items being auctioned from a plurality of bidders wherein each of the bids represents at least one bundle of items and at least one associated offer price;

(b) calculating an interim allocation of bundles to the bidders that maximizes or approximates a total value of winning bids;

(c) calculating an interim winning price for each bundle in the interim allocation based on a k-bundle price algorithm which ensures that the bidders can determine whether they are winning the auction from the interim winning prices;

(d) transmitting the interim allocation and the interim winning prices to the bidders;

(e) receiving upwardly-revised bids from the bidders at the computer site in response to step (d);

(f) calculating a revised, interim allocation of bundles to the bidders and a revised, interim winning price for each bundle in the revised, interim allocation based on the revised bids;

(g) transmitting the revised, interim allocation and the revised, interim winning prices to the bidders;

(h) repeating steps (e) through (g) until a termination criterion is satisfied; and

(i) declaring the last revised, interim allocation and the last revised, interim winning prices as an auction result after termination of the bidding process.

2. The method as claimed in claim 1 further comprising:

determining interim prices for one or more unallocated bundles based on the k-bundle price algorithm; and

transmitting the interim prices for the one or more unallocated bundles to the bidders.

3. The method as claimed in claim 1 wherein the items are products.

4. The method as claimed in claim 1 wherein the items are services.

5. The method as claimed in claim 1 wherein the items include at least one product and at least one service.

6. The method as claimed in claim 1 wherein the computer site is a Web site.

7. The method as claimed in claim 1 wherein the auction ends a fixed period of time after the auction begins.

8. The method as claimed in claim 1 wherein the auction ends an undetermined period of time after the auction begins.

9. The method as claimed in claim 1 wherein the step of calculating an interim winning price for each bundle in the interim allocation includes the step of constructing an instance of the assignment problem.

10. A computer system for conducting a progressive, price-driven, combinatorial auction of items over a communications network, the computer system comprising:

a set of related documents and associated files; and

a server for serving up the set of related documents and associated files to a plurality of I/O devices to provide bidders with capability to participate in the auction, the server being programmed with application software to:

(a) receive bids for the items being auctioned from a plurality of bidders wherein each of the bids represents at least one bundle of items and at least one associated offer price;

(b) calculate an interim allocation of bundles to the bidders that maximizes or approximates a total value of winning bids;

(c) calculate an interim winning price for each bundle in the interim allocation based on a k-bundle price algorithm which ensures that the bidders can determine whether they are winning the auction from the interim winning prices;

(d) transmit the interim allocation and the interim winning prices to the bidders;

(e) receive upwardly-revised bids from the bidders at the server in response to step (d);

(f) calculate a revised, interim allocation of bundles to the bidders and a revised, interim winning price for each bundle in the revised, interim allocation based on the revised bids;

(g) transmit the revised, interim allocation and the revised, interim winning prices to the bidders;

(h) repeat (e) through (g) until a termination criterion is satisfied; and

(i) declare the last revised, interim allocation and the last revised, interim winning prices as an auction result after termination of the bidding process.

11. The computer system as claimed in claim 10 wherein the server is further programmed to:

determine interim prices for one or more unallocated bundles based on the k-bundle price algorithm; and

transmit the interim prices for the one or more unallocated bundles to the bidders.

12. The computer system as claimed in claim 10 wherein the items are products.

13. The computer system as claimed in claim 10 wherein the items are services.

14. The computer system as claimed in claim 10 wherein the items include at least one product and at least one service.

15. The computer system as claimed in claim 10 wherein the computer site is a Web site.

16. The computer system as claimed in claim 10 wherein the auction ends a fixed period of time after the auction begins.

17. The computer system as claimed in claim 10 wherein the auction ends an undetermined period of time after the auction begins.

18. The computer system as claimed in claim 10 wherein the server calculates an interim winning price for each bundle in the interim allocation by constructing an instance of the assignment problem.

19. The method as claimed in claim 1 wherein the computer site comprises a server and at least one of steps (b), (c) and (f) is performed using the server.

20. The method as claimed in claim 2 wherein a server at the computer site determines and transmits the interim prices.